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FIG. 1A

11 20 29 38 47 56
5' GCC ATG GGG GGA AAG CAG CGG GAC GAG GAT GAC GAG GCC TAC GGG AAG CCA GTC

M G G K Q R D E D D E A Y G K P V

65 74 83 92 101 110
AAA TAC GAC CCC TCC TTT CGA GGC CCC ATC AAG AAC AGA AGC TGC ACA GAT GTC

K Y D P S F R G P I K N R S C T D V

119 128 137 146 155 164
ATC TGC TGC GTC CTC TTC CTG CTC TTC ATT CTA GGT TAC ATC GTG GTG GGG ATT

I C C V L F L F I L G Y I V V G I

173 182 191 200 209 218
GTG GCC TGG TTG TAT GGA GAC CCC CGG CAA GTC CTC TAC CCC AGG AAC TCT ACT

V A W L Y G D P R Q V L Y P R N S T

227 236 245 254 263 272
GGG GCC TAC TGT GGC ATG GGG GAG AAC AAA GAT AAG CCG TAT CTC CTG TAC TTC

G A Y C G M G E N K D K P Y L L Y F

281 290 299 308 317 326
AAC ATC TTC AGC TGC ATC CTG TCC AGC AAC ATC ATC TCA GTT GCT GAG AAC GGC

N I F S C I L S S N I I S V A E N G

335 344 353 362 371 380
CTA CAG TGC CCC ACA CCC CAG GTG TGT GTG TCC TCC TGC CCG GAG GAC CCA TGG

L Q C P T P Q V C V S S C P E D P W

389 398 407 416 425 434
ACT GTG GGA AAA AAC GAG TTC TCA CAG ACT GTT GGG GAA GTC TTC TAT ACA AAA

T V G K N E F S Q T V G E V F Y T K

443 452 461 470 479 488
AAC AGG AAC TTT TGT CTG CCA GGG GTA CCC TGG AAT ATG ACG GTG ATC ACA AGC

N R N F C L P G V P W N M T V I T S

497 506 515 524 533 542
CTG CAA CAG GAA CTC TGC CCC AGT TTC CTC CTC CCC TCT GCT CCA GCT CTG GGG

L Q Q E L C P S F L L P S A P A L G

551 560 569 578 587 596
CGC TGC TTT CCA TGG ACC AAC GTT ACT CCA CCG GCG CTC CCA GGG ATC ACC AAT

R C F P W T N V T P P A L P G I T N

FIG. 1B

605	614	623	632	641	650
GAC ACC ACC ATA CAG CAG GGG ATC AGC GGT CTT ATT GAC AGC CTC AAT GCC CGA					
D T T I Q Q G I S G L I D S L N A R					
659	668	677	686	695	704
GAC ATC AGT GTT AAG ATC TTT GAA GAT TTT GCC CAG TCC TGG TAT TGG ATT CTT					
D I S V K I F E D F A Q S W Y W I L					
713	722	731	740	749	758
GTT GCC CTG GGG GTG GCT CTG GTC TTG AGC CTA CTG TTT ATC TTG CTT CTG CGC					
V A L G V A L V L S L L F I L L L R					
767	776	785	794	803	812
CTG GTG GCT GGG CCC CTG GTG CTG GTG CTG ATC CTG GGA GTG CTG GGC GTG CTG					
L V A G P L V L V L I L G V L G V L					
821	830	839	848	857	866
GCA TAC GGC ATC TAC TAC TGC TGG GAG GAG TAC CGA GTG CTG CGG GAC AAG GGC					
A Y G I Y Y C W E E Y R V L R D K G					
875	884	893	902	911	920
GCC TCC ATC TCC CAG CTG GGT TTC ACC ACC AAC CTC AGT GCC TAC CAG AGC GTG					
A S I S Q L G F T T N L S A Y Q S V					
929	938	947	956	965	974
CAG GAG ACC TGG CTG GCC GCC CTG ATC GTG TTG GCG GTG CTT GAA GCC ATC CTG					
Q E T W L A A L I V L A V L E A I L					
983	992	1001	1010	1019	1028
CTG CTG ATG CTC ATC TTC CTG CGG CAG CGG ATT CGT ATT GCC ATC GCC CTC CTG					
L L M L I F L R Q R I R I A I A L L					
1037	1046	1055	1064	1073	1082
AAG GAG GCC AGC AAG GCT GTG GGA CAG ATG ATG TCT ACC ATG TTC TAC CCA CTG					
K E A S K A V G Q M M S T M F Y P L					
1091	1100	1109	1118	1127	1136
GTC ACC TTT GTC CTC CTC CTC ATC TGC ATT GCC TAC TGG GCC ATG ACT GCT CTG					
V T F V L L I C I A Y W A M T A L					
1145	1154	1163	1172	1181	1190
TAC CTG GCT ACA TCG GGG CAA CCC CAG TAT GTG CTC TGG GCA TCC AAC ATC AGC					
Y L A T S G Q P Q Y V L W A S N I S					
1199	1208	1217	1226	1235	1244
TCC CCC GGC TGT GAG AAA GTG CCA ATA AAT ACA TCA TGC AAC CCC ACG GCC CAC					
S P G C E K V P I N T S C N P T A H					

FIG. 1C

1253	1262	1271	1280	1289	1298
CTT GTG AAC TCC TCG TGC CCA GGG CTG ATG TGC GTC TTC CAG GGC TAC TCA TCC					
<u>L</u> <u>V</u> <u>N</u> <u>S</u> <u>S</u> <u>C</u> <u>P</u> <u>G</u> <u>L</u> <u>M</u> <u>C</u> <u>V</u> <u>F</u> <u>Q</u> <u>G</u> <u>Y</u> <u>S</u> <u>S</u>					
1307	1316	1325	1334	1343	1352
AAA GGC CTA ATC CAA CGT TCT GTC TTC AAT CTG CAA ATC TAT GGG GTC CTG GGG					
<u>K</u> <u>G</u> <u>L</u> <u>I</u> <u>Q</u> <u>R</u> <u>S</u> <u>V</u> <u>F</u> <u>N</u> <u>L</u> <u>Q</u> <u>I</u> <u>Y</u> <u>G</u> <u>V</u> <u>L</u> <u>G</u>					
1361	1370	1379	1388	1397	1406
CTC TTC TGG ACC CTT AAC TGG GTA CTG GCC CTG GGC CAA TGC GTC CTC GCT GGA					
<u>L</u> <u>F</u> <u>W</u> <u>T</u> <u>L</u> <u>N</u> <u>W</u> <u>V</u> <u>L</u> <u>A</u> <u>L</u> <u>G</u> <u>Q</u> <u>C</u> <u>V</u> <u>L</u> <u>A</u> <u>G</u>					
1415	1424	1433	1442	1451	1460
GCC TTT GCC TCC TTC TAC TGG GCC TTC CAC AAG CCC CAG GAC ATC CCT ACC TTC					
<u>A</u> <u>F</u> <u>A</u> <u>S</u> <u>F</u> <u>Y</u> <u>W</u> <u>A</u> <u>F</u> <u>H</u> <u>K</u> <u>P</u> <u>Q</u> <u>D</u> <u>I</u> <u>P</u> <u>T</u> <u>F</u>					
1469	1478	1487	1496	1505	1514
CCC TTA ATC TCT GCC TTC ATC CGC ACA CTC CGT TAC CAC ACT GGG TCA TTG GCA					
<u>P</u> <u>L</u> <u>I</u> <u>S</u> <u>A</u> <u>F</u> <u>I</u> <u>R</u> <u>T</u> <u>L</u> <u>R</u> <u>Y</u> <u>H</u> <u>T</u> <u>G</u> <u>S</u> <u>L</u> <u>A</u>					
1523	1532	1541	1550	1559	1568
TTT GGA GCC CTC ATC CTG ACC CTT GTG CAG ATA GCC CGG GTC ATC TTG GAG TAT					
<u>F</u> <u>G</u> <u>A</u> <u>L</u> <u>I</u> <u>L</u> <u>T</u> <u>L</u> <u>V</u> <u>Q</u> <u>I</u> <u>A</u> <u>R</u> <u>V</u> <u>I</u> <u>L</u> <u>E</u> <u>Y</u>					
1577	1586	1595	1604	1613	1622
ATT GAC CAC AAG CTC AGA GGA GTG CAG AAC CCT GTA GCC CGC TGC ATC ATG TGC					
<u>I</u> <u>D</u> <u>H</u> <u>K</u> <u>L</u> <u>R</u> <u>G</u> <u>V</u> <u>Q</u> <u>N</u> <u>P</u> <u>V</u> <u>A</u> <u>R</u> <u>C</u> <u>I</u> <u>M</u> <u>C</u>					
1631	1640	1649	1658	1667	1676
TGT TTC AAG TGC TGC CTC TGG TGT CTG GAA AAA TTT ATC AAG TTC CTA AAC CGC					
<u>C</u> <u>F</u> <u>K</u> <u>C</u> <u>C</u> <u>L</u> <u>W</u> <u>C</u> <u>L</u> <u>E</u> <u>K</u> <u>F</u> <u>I</u> <u>K</u> <u>F</u> <u>L</u> <u>N</u> <u>R</u>					
1685	1694	1703	1712	1721	1730
AAT GCA TAC ATC ATG ATC GCC ATC TAC GGG AAG AAT TTC TGT GTC TCA GCC AAA					
<u>N</u> <u>A</u> <u>Y</u> <u>I</u> <u>M</u> <u>I</u> <u>A</u> <u>I</u> <u>Y</u> <u>G</u> <u>K</u> <u>N</u> <u>F</u> <u>C</u> <u>V</u> <u>S</u> <u>A</u> <u>K</u>					
1739	1748	1757	1766	1775	1784
AAT GCG TTC ATG CTA CTC ATG CGA AAC ATT GTC AGG GTG GTC GTC CTG GAC AAA					
<u>N</u> <u>A</u> <u>F</u> <u>M</u> <u>L</u> <u>L</u> <u>M</u> <u>R</u> <u>N</u> <u>I</u> <u>V</u> <u>R</u> <u>V</u> <u>V</u> <u>V</u> <u>L</u> <u>D</u> <u>K</u>					
1793	1802	1811	1820	1829	1838
GTC ACA GAC CTG CTG TTC TTT GGG AAG CTG CTG GTG GTC GGA GGC GTG GGG					
<u>V</u> <u>T</u> <u>D</u> <u>L</u> <u>L</u> <u>F</u> <u>F</u> <u>G</u> <u>K</u> <u>L</u> <u>L</u> <u>V</u> <u>V</u> <u>G</u> <u>G</u> <u>V</u> <u>G</u>					
1847	1856	1865	1874	1883	1892
GTC CTG TCC TTC TTT TTT TTC TCC GGT CGC ATC CCG GGG CTG GGT AAA GAC TTT					
<u>V</u> <u>L</u> <u>S</u> <u>F</u> <u>F</u> <u>F</u> <u>S</u> <u>G</u> <u>R</u> <u>I</u> <u>P</u> <u>G</u> <u>L</u> <u>G</u> <u>K</u> <u>D</u> <u>F</u>					

FIG. 1D

1901	1910	1919	1928	1937	1946
AAG AGC CCC CAC CTC AAC TAT TAC TGG CTG CCC ATC ATG ACC TCC ATC CTG GGG					
- - - - -					
K S P H L N Y Y W L P I M T S I L G					
1955	1964	1973	1982	1991	2000
GCC TAT GTC ATC GCC AGC GGC TTC TTC AGC GTT TTC GGC ATG TGT GTG GAC ACG					
- - - - -					
A Y V I A S G F F S V F G M C V D T					
2009	2018	2027	2036	2045	2054
CTC TTC CTC TGC TTC CTG GAA GAC CTG GAG CGG AAC AAC GGC TCC CTG GAC CGG					
- - - - -					
L F L C F L E D L E R N N G S L D R					
2063	2072	2081	2090	2099	2108
CCC TAC TAC ATG TCC AAG AGC CTT CTA AAG ATT CTG GGC AAG AAG AAC GAG GCG					
- - - - -					
P Y Y M S K S L L K I L G K K N E A					
2117	2126	2135	2144	2153	2162
CCC CCG GAC AAC AAG AAG AGG AAG AAG TGA CAG CTC CGG CCC TGA TCC AGG ACT					
- - - - -					
P P D N K K R K K *					
2171	2180	2189	2198	2207	2216
GCA CCC CAC CCC CAC CGT CCA GCC ATC CAA CCT CAC TTC GCC TTA CAG GTC TCC					
- - - - -					
2225	2234	2243	2252	2261	2270
ATT TTG TGG TAA AAA AAG GTT TTA GGC CAG GCG CCG TGG CTC ACG CCT GTA ATC					
- - - - -					
2279	2288	2297	2306	2315	2324
CAA CAC TTT GAG AGG CTG AGG CGG GCG GAT CAC CTG AGT CAG GAG TTC GAG ACC					
- - - - -					
2333	2342	2351	2360	2369	2378
AGC CTG GCC AAC ATG GTG AAA CCT CCG TCT CTA TTA AAA ATA CAA AAA TTA GCC					
- - - - -					
2387	2396	2405	2414	2423	2432
GAG AGT GGT GGC ATG CAC CTG TCA TCC CAG CTA CTC GGG AGG CTG AGG CAG GAG					
- - - - -					
2441	2450	2459	2468	2477	2486
AAT CGC TTG AAC CCG GGA GGC AGA GGT TGC AGT GAG CCG AGA TCG CGC CAC TGC					
- - - - -					
2495	2504	2513	2522	2531	2540
ACT CCA ACC TGG GTG ACA GAC TCT GTC TCC AAA ACA AAA CAA ACA AAC AAA AAG					
- - - - -					
2549	2558	2567	2576	2585	
ATT TTA TTA AAG ATA TTT TGT TAA CTC AGT AAA AAA AAA AAA AA 3'					
- - - - -					

FIG. 1E

9 18 27 36 45 54
5' GAT CAG GGC GGC CAG CCA GGT CTC CTG CAC GCT CTG GTA GGC ACT GAG GTT GGT

D Q G G Q P G L L H A L V G T E V G

63 72 81 90 99 108
GGT GAA ACC CAG CTG GGA GAT GGA GGC GCC CTC GTC CCG CAG CAC TCG GTA CTC

G E T Q L G D G G A L V P Q H S V L

117 126 135 144 153
CTC CCA GCA GTA GTA GAT GCC ATA TGC CAG CAC GCC CAG CAC TCC CAG GAT C 3'

L P A V V D A I C Q H A Q H S Q D

FIG. 2A

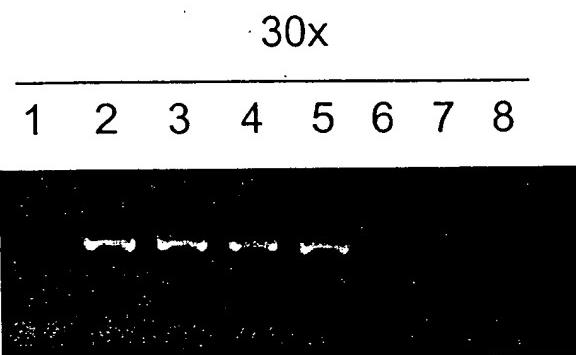


FIG. 2B

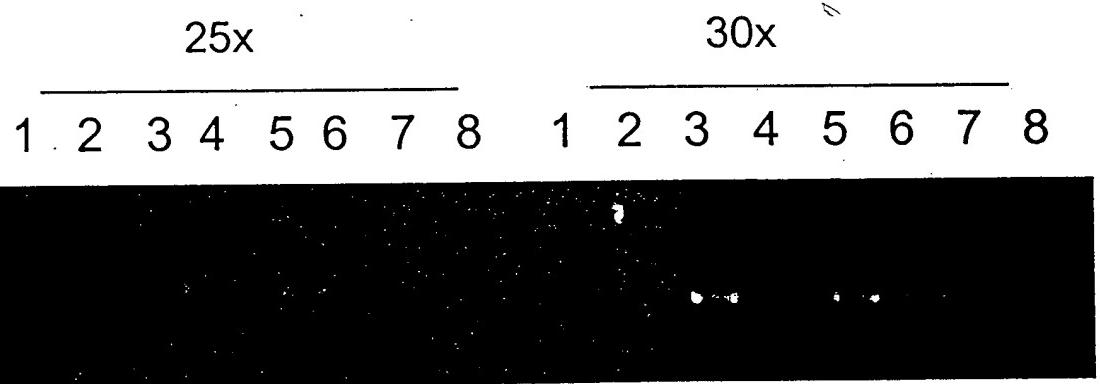


FIG. 2C

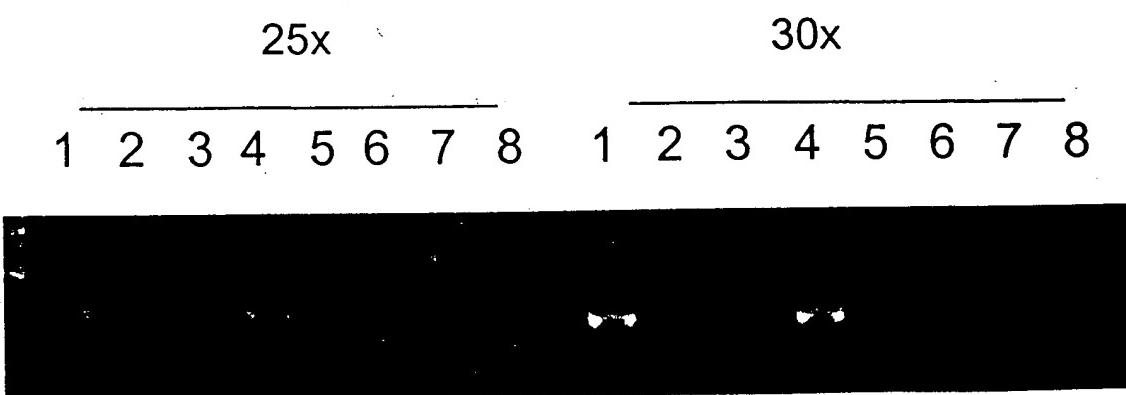


FIG. 3A

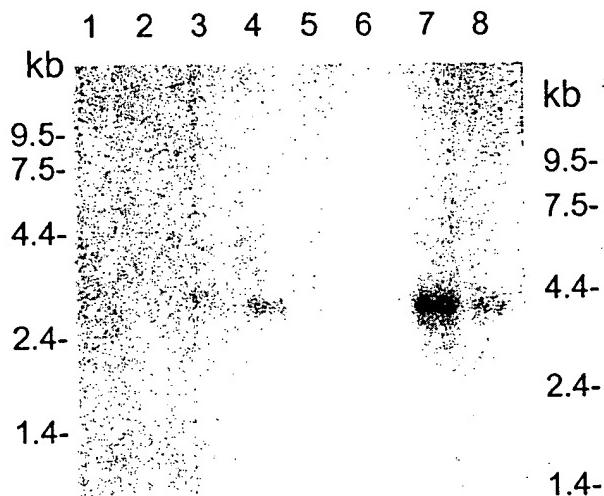


FIG. 3B

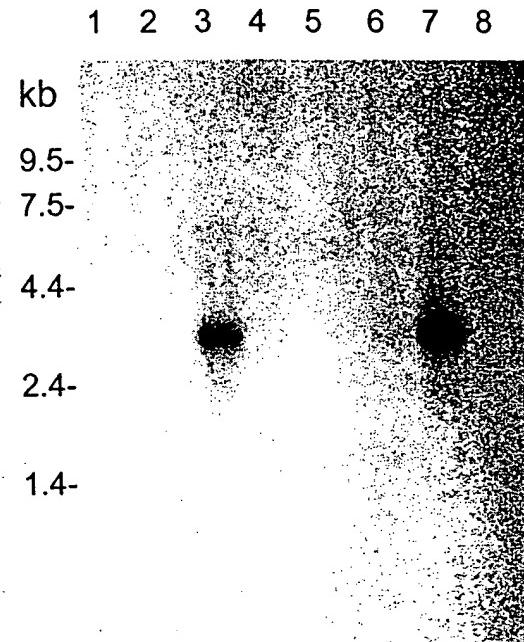


FIG. 3C

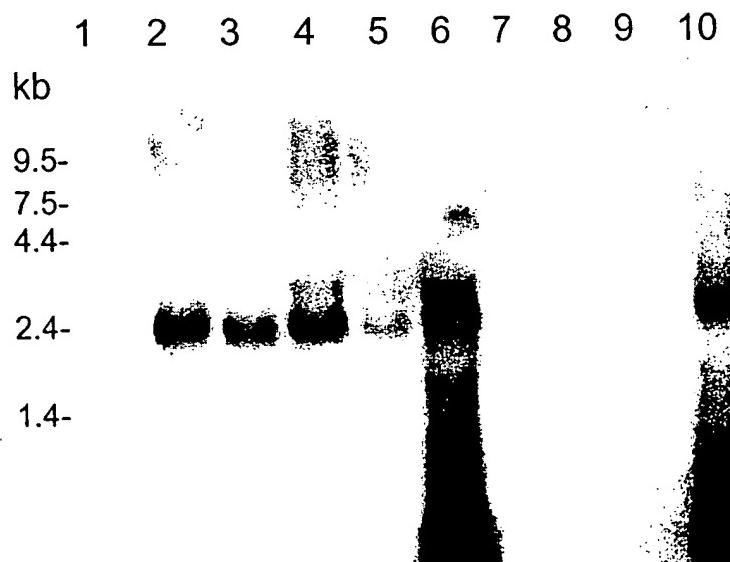


FIG. 4A

24P4C12	5	QRDEDDEAYGKPVKYDPSFRGPIKNRSCTDVICCVLFLLFILGYIIVGVGIVAWLYGDPRQV
mNG22	3	RKQNENEAHGNSAKYDPSFRGPIKNRGCTDIICCVLFLIFILGYIIVGLVAWVYGDPRQV *****
24P4C12	65	LYPRNSTGAYCGMGENDKPYLLYFNIFSCILSSNIISVAENGLQCPTPQVCVSSCPEDP
mNG22	63	LYPRNSTGAYCGVDNKDKPYVLYFDILSCAAINIISIAENGLQCPTPQVCVSSCPLAP *****
24P4C12	125	WTVGKNEFSQTVGEVFYTKNRNFCLPGVPWNMTVITSLOQQELCPSSLPSAPALGRCFPW
mNG22	123	WAVEVFQFSKTVGEV-YGERRNFCFLPAVSPDMIVEESLQKGLCPRFLLPSTPALGRCFPL **
24P4C12	185	TNVTPPALPGIT-NDTTIQQQISGLIDSLNARDISVKIFEDFAQSWYWLVALGVALVLS
mNG22	182	PNINFTLPEDLRINNTTVSNGISGLLDSINARDVSVKIFEDFAQSWYWLVALGVALALS *
24P4C12	244	LLFILLRLVAGPLVLVLILGVGVLAYGIYYCWEEYRVLRDKGASISQLGFTTNLSAYQ
mNG22	242	LLFILLRLVAAPLVLLLIVGVVLAVLAYGIYHCWQQYQVFRDKGASITQLGFTTNFSAYQ *****
24P4C12	304	SVQETWLAALIVLAVLEAILLMLIFLRQRIRIAIALKEASKAVGQMMSTMFYPLVTFV
mNG22	302	SVKETWLAALIVLAVLEGILLMLIFLRQRIRIAIALKEASRAVGQMMSTMFYPLVTFV ***
24P4C12	364	LLLICIAYWAMTALYLATSGQPQYVLWASNISSPGCEKVPINTSCNPTAHLVNSSCPGLM
mNG22	362	LLVICIGYWAVTALYLATSGQPQYIYWASNNTSTPGCENVPVNMTCDPMAPL-NSSCPNLK ***
24P4C12	424	CVFQGYSSKGLIQRSVFNLQIYGVGLFWTLNWVLALGQCVLAGAFASFYWAHKPQDIP
mNG22	421	CVFKGYSTTGLAQRSLFNLQIYGVGLFWTVNWVLALGQCVLAGAFASFYWAHKPRDIP ***
24P4C12	484	TFPLISAFIRTLRYHTGSLAFGALILTLVQIARVILEYIDHKLRGVQNPVARCIMCCFKC
mNG22	481	TFPLSSAFIRTLRYHTGSLAFGALILSLVQIARVILEYIDHKLRGSQNPVARCIICCFKC ****
24P4C12	544	CLWCLEKFIKFNLRNAYIMIAIYGKNFCVSAKNAFMLLMRNIVRVVVLKDVTDLFFGK
mNG22	541	CLWCLEKFIKFNLRNAYIMIAIYGKNFCVSAKNAFMLLMRNVLRVVVLKDVTDLFFGK *****

FIG. 4B

24P4C12	604	LLVGGVGVL S FFFFSGRI PGLGKDFKSPHLNYYWLPIMTSILGAYVIASGFFSVFGMCV
mNG22	601	LLVGGVGVL S FFFFSGRI KGLGKDFENPNLNYYWLPIMTSIMGAYVIASGFFSVFGMCV *****
24P4C12	664	DTLFLCFLEDLERNNGS LDRPYYMSK LLK I LGKKNEAPPDNKKRKK
mNG22	661	DTLFLCFLEDLERNDGS QERPYYMP KALLK I LGKKNEAPTGGKTRKK *****

FIG. 5

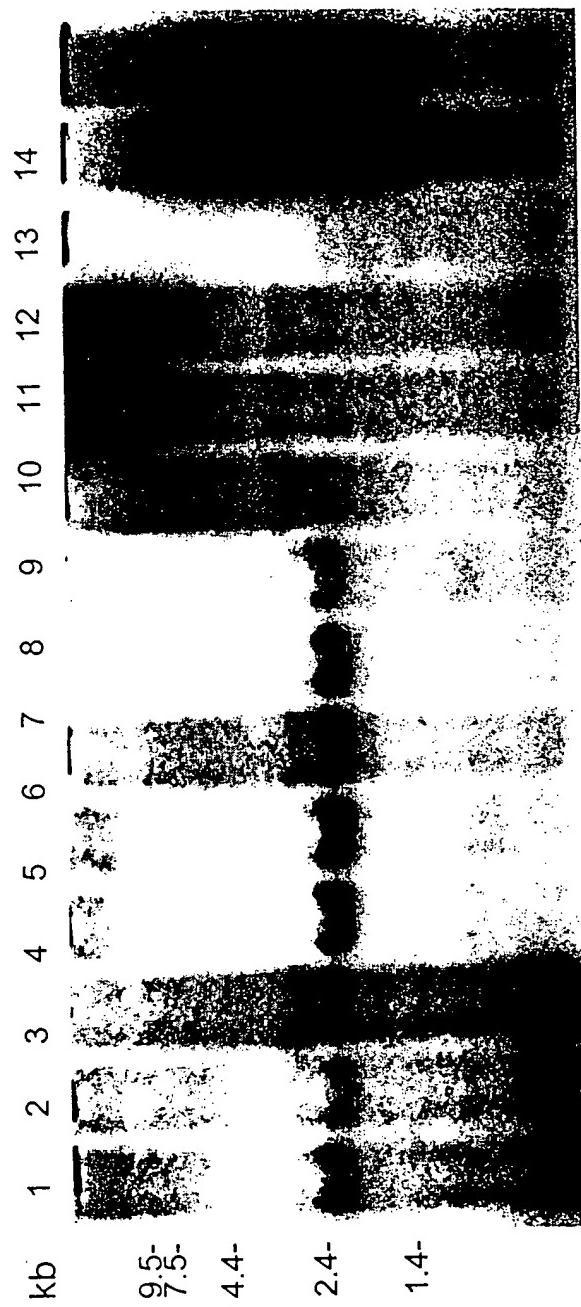


FIG. 6A

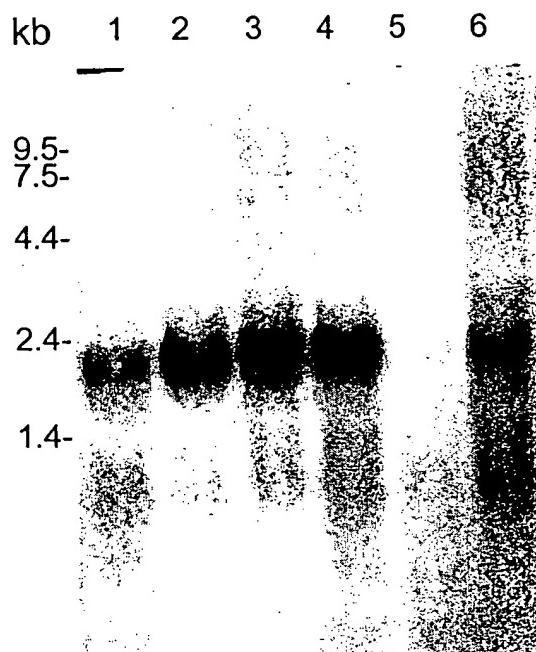


FIG. 6B



FIG. 7A

	10	19	28	37	46	55
5'	GCC CGC CCG GGC TGG GGT CGC GCT GGC TCG GAC TCC GCT CCC CGC CCC GCC GCG					
	-----	-----	-----	-----	-----	-----
	64	73	82	91	100	109
	GCC ATG GAG GAC GAG CGG AAA AAC GGA GCC TAC GGA ACN CCA CAG AAG TAT GAT					
	-----	-----	-----	-----	-----	-----
	M E D E R K N G A Y G T P Q K Y D					
	118	127	136	145	154	163
	CCC ACT TTC AAA GGA CCC ATT TAC AAT AGG GGC TGC ACG GAT ATC ATA TGC TGT					
	-----	-----	-----	-----	-----	-----
	P T F K G P I Y N R G C T D I I C C					
	172	181	190	199	208	217
	GTG TTC CTG CTC CTG GCC ATT GTG GGC TAC GTG GCT GTA GGC ATC ATA GCC TGG					
	-----	-----	-----	-----	-----	-----
	V F L L A I V G Y V A V G I I A W					
	226	235	244	253	262	271
	ACT CAT GGA GAC CCT CGA AAG GTG ATC TAC CCC ACT GAT AGC CGG GGC GAG TTC					
	-----	-----	-----	-----	-----	-----
	T H G D P R K V I Y P T D S R G E F					
	280	289	298	307	316	325
	TGC GGG CAG AAG GGC ACA AAA AAC GAG AAC AAA CCC TAT CTG TTT TAT TTC AAC					
	-----	-----	-----	-----	-----	-----
	C G Q K G T K N E N K P Y L F Y F N					
	334	343	352	361	370	379
	ATT GTG AAA TGT GCC AGC CCC CTG GTT CTG CTG GAA TTC CAA TGT CCC ACT CCC					
	-----	-----	-----	-----	-----	-----
	I V K C A S P L V L L E F Q C P T P					
	388	397	406	415	424	433
	CAG ATC TGC GTG GAA AAA TGC CCC GAC CGC TAC CTC ACG TAC CTG AAT GCT CGC					
	-----	-----	-----	-----	-----	-----
	Q I C V E K C P D R Y L T Y L N A R					
	442	451	460	469	478	487
	AGC TCC CGG GAC TTT GAG TAC TAT AAG CAG TTC TGT GTT CCT GGC TTC AAG AAC					
	-----	-----	-----	-----	-----	-----
	S S R D F E Y Y K Q F C V P G F K N					
	496	505	514	523	532	541
	AAT AAA GGA GTG GCT GAG GTG CTT CGA GAT GGT GAC TGC CCT GCT GTC CTC ATC					
	-----	-----	-----	-----	-----	-----
	N K G V A E V L R D G D C P A V L I					
	550	559	568	577	586	595
	CCC AGC AAA CCC TTG GCC CGG AGA TGC TTC CCC GCT ATC CAC GCC TAC AAG GGT					
	-----	-----	-----	-----	-----	-----
	P S K P L A R R C F P A I H A Y K G					
	604	613	622	631	640	649
	GTC CTG ATG GTG GGC AAT GAG ACG ACC TAT GAG GAT GGG CAT GGC TCC CGG AAA					
	-----	-----	-----	-----	-----	-----
	V L M V G N E T T Y E D G H G S R K					

FIG. 7B

658	667	676	685	694	703
AAC ATC ACA GAC CTG GTG GAG GGC GCC AAG AAA GCC AAT GGA GTC CTA GAG GCG					

N	I	T	D	L	V E G A K K A N G V L E A

712	721	730	739	748	757
CGG CAA CTC GCC ATG CGC ATA TTT GAA GAT TAC ACC GTC TCT TGG TAC TGG ATT					

R	Q	L	A	M	R I F E D Y T V S W Y W I

766	775	784	793	802	811
ATC ATA GGC CTG GTC ATT GCC ATG GCG ATG AGC CTC CTG TTC ATC ATC CTG CTT					

I	I	G	L	V I A M A M S L L F I I L L	

820	829	838	847	856	865
CGC TTC CTG GCT GGT ATT ATG GTC TGG GTG ATG ATC ATC ATG GTG ATT CTG GTG					

R	F	L	A	G I M V W V M I I M V I L V	

874	883	892	901	910	919
CTG GGC TAC GGA ATA TTT CAC TGC TAC ATG GAG TAC TCC CGA CTG CGT GGT GAG					

L	G	Y	G	I F H C Y M E Y S R L R G E	

928	937	946	955	964	973
GCC GGC TCT GAT GTC TCT TTG GTG GAC CTC GGC TTT CAG ACG GAT TTC CGG GTG					

A	G	S	D	V S L V D L G F Q T D F R V	

982	991	1000	1009	1018	1027
TAC CTG CAC TTA CGG CAG ACC TGG TTG GCC TTT ATG ATC ATT CTG AGT ATC CTT					

Y	L	H	L	R Q T W L A F M I I L S I L	

1036	1045	1054	1063	1072	1081
GAA GTC ATT ATC ATC TTG CTG CTC ATC TTT CTC CGG AAG AGA ATT CTC ATC GCG					

E	V	I	I	L L I F L R K R I L I A	

1090	1099	1108	1117	1126	1135
ATT GCA CTC ATC AAA GAA GCC AGC AGG GCT GTG GGA TAC GTC ATG TGC TCC TTG					

I	A	L	I	K E A S R A V G Y V M C S L	

1144	1153	1162	1171	1180	1189
CTC TAC CCA CTG GTC ACC TTC TTG CTG TGC CTC TGC ATC GCC TAC TGG GCC					

L	Y	P	L	V T F F L L C L C I A X W A	

1198	1207	1216	1225	1234	1243
AGC ACT GCT GTC TTC CTG TCC ACT TCC AAC GAA GCG GTC TAT AAG ATC TTT GAT					

S	T	A	V	F L S T S N E A V Y K I F D	

1252	1261	1270	1279	1288	1297
GAC AGC CCC TGC CCA TTT ACT GCG AAA ACC TGC AAC CCA GAG ACC TTC CCC TCC					

D	S	P	C	P F T A K T C N P E T F P S	

FIG. 7C

1306	1315	1324	1333	1342	1351
TCC	CAT	GAG	TCC	CGC	CAA
S	H	E	S	R	Q
GGT	GAG	TCG	GGC	TAC	CAC
G	E	S	G	Y	H
1360	1369	1378	1387	1396	1405
GGT	GAG	TCG	GGC	TAC	CGG
G	E	S	G	Y	H
1414	1423	1432	1441	1450	1459
ATG	TTC	TTC	TGG	TTG	GCC
M	F	F	W	L	A
1468	1477	1486	1495	1504	1513
GGG	GCC	TTT	GCC	TCC	TAC
G	A	F	A	S	Y
1522	1531	1540	1549	1558	1567
TTC	CCG	CTC	TTC	TCT	GCC
F	P	L	F	S	A
1576	1585	1594	1603	1612	1621
GCC	TTT	GGC	GCG	CTC	ATC
A	F	G	A	L	I
1630	1639	1648	1657	1666	1675
TAC	CTG	GAT	CAG	CGG	CTG
Y	L	D	Q	R	L
1684	1693	1702	1711	1720	1729
ACC	TGT	CTC	AAA	TGC	TGC
T	C	L	K	C	C
1738	1747	1756	1765	1774	1783
AGG	AAT	GCC	TAC	ATC	ATG
R	N	A	Y	I	M
1792	1801	1810	1819	1828	1837
AGG	AAT	GCC	TTC	TTC	CTG
R	N	A	F	F	L
1846	1855	1864	1873	1882	1891
AAA	GTT	ACT	GAC	TTC	CTC
K	V	T	D	F	L
1900	1909	1918	1927	1936	1945
GGG	ATC	CTG	GCT	TTC	TTC
G	I	L	A	F	F

FIG. 7D

1954	1963	1972	1981	1990	1999
GCA CCA CCC CTC	AAT TAT TAC TGG GTT CCT ATA CTG ACG GTG ATC GTT GGC TCC				
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
A P P L N Y Y W V P I L T V I V G S					
2008	2017	2026	2035	2044	2053
TAC TTG ATT GCA CAC GGT TTC TTC AGC GTC TAT GGC ATG TGT GTG GAC ACG CTG					
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
Y L I A H G F F S V Y G M C V D T L					
2062	2071	2080	2089	2098	2107
TTC CTC TGC TTC TTG GAG GAC CTG GAG AGG AAT GAC GGC TCG GCC GAG AGG CCT					
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
F L C F L E D L E R N D G S A E R P					
2116	2125	2134	2143	2152	2161
TAC TTC ATG TCT TCC ACC CTC AAG AAA CTC TTG AAC AAG ACC AAC AAG AAG GCA					
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
Y F M S S T L K K L L N K T N K K A					
2170	2179	2188	2197	2206	2215
GCG GAG TCC TGA AGG CCC CGT GCT CCC CAC CTC TCA AGG AGT CTC ATG CCG CAG					
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
A E S *					
2224	2233	2242	2251	2260	2269
GGT GCT CAG TAG CTG GGT CTG TTC CCC CAG CCC CTT GGG CTC ACC TGA AGT CCT					
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
2278	2287	2296	2305	2314	2323
ATC ACT GCC GCT CTG CCC CTC CCC ATG AGC CAG ATC CCA CCA GTT TCT GGA CGT					
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
2332	2341	2350	2359	2368	2377
GGA GAG TCT GGG GCA TCT CCT TCT TAT GCC AAG GGG CGC TTG GAG TTT TCA TGG					
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
2386	2395	2404	2413	2422	2431
CTG CCC CTC CAG ACT GCG AGA AAC AAG TAA AAA CCC ATT GGG GCC TCT TGA TGT					
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
2440	2449	2458	2467	2476	2485
CTG GGA TGG CAC GTG GCC CGA CCT CCA CAA GCT CCC TCA TGC TTC CTG TCC CCC					
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
2494	2503	2512	2521	2530	2539
GCT TAC ACG ACA ACG GGC CAG ACC ACG GGA AGG ACG GTG TTT GTG TCT GAG GGA					
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
2548	2557	2566	2575	2584	2593
GCT GCT GGC CAC AGT GAA CAC CCA CGT TTA TTC CTG CCT GCT CCG GCC AGG ACT					
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
2602	2611	2620	2629	2638	2647
GAA CCC CTT CTC CAC ACC TGA ACA GTT GGC TCA AGG GCC ACC AGA AGC ATT TCT					
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
2656	2665	2674	2683	2692	2701
TTA TTA TTA TTA TTT AAC CTG GAC ATG CAT TAA AGG GTC TAT TAG CTT TCA					
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
2710	2719	2728	2737		
AAA A 3'					
- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -

FIG. 8

Score = 589 bits (1502), Expect = e-167
Identities = 317/707 (44%), Positives = 408/707 (56%), Gaps = 34/707 (4%)

24P4C12 12 AYGKPVKYDPSFRGPIKNRSCTDVICCVLFLLFILGYIVVGIVAWLYGDPRQVLYPRNST 71
AYG P KYDP+F+GPI NR CTD+ICCV LL I+GY+ VGI+AW +GDPR+V+YP +S
H38087 9 AYGTPQKYDPTFKGPYIYNRGCTDIICCVFLLAIVGYVAVGIIAWTHGDPRKVIYPTDSR 68

24P4C12 72 GAYCGMG--ENKDKPYLLYFNIFSCILSSNIISVAENGLQCPTPQCVSSCPEDPWTVGK 129
G +CG +N++KPYL YFNI C ++ QCPTPQ+CV CP D +
H38087 69 GEFCGQKGTKNEKPKYLFYFNIVKCASPLVLE----FQCPTPQICVEKCP-DRYLTYL 122

24P4C12 130 NEFSQTVGEVFYTKNRNFCLPGVPWNMTVITSLLQQELCPSFLLPSAPALGRCPWTVNGK 189
N S E + FC+PG N V L+ CP+ L+PS P RCFP +
H38087 123 NARSSRDFEYY----KQFCVPGFKNNKGVAEVLRDGDCPAVLIPSKPLARRCFPAIHAYK 178

24P4C12 190 PALPGITNDTTIQQG-----ISGLIDS-----LNARDISVKIFEDFAQSWYWIXXXX 236
L + N+TT + G I+ L++ L AR +++++IFED+ SWYWI
H38087 179 GVLM-VGNETTYEDGHGSRKNTDLVEGAKKANGVLEARQLAMRIFEDYTVSWYWIIGL 237

24P4C12 237 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXCWEERYRLRDKGAS---ISQL 293
+C+ EY LR + S + L
H38087 238 VIAMAMSSLFIILLRFLAGIMVWMIIMVILVLYGIFHCYMEYSRLRGEAGSDVSLVLDL 297

24P4C12 294 GFTTNLSAYQSVQETWXXXXXXXXXXXXXXXXXXXXXQRIRIAIAALLKEASKAVGQMMS 353
GF T+ Y +++TW R+RI IAIAL+KEAS+AVG +M
H38087 298 GFQTDFRVYLHLRQTLAFMIILSILEVIILLIFLRKRLIAIAIKEASRAVGYVMC 357

24P4C12 354 TMFYPLVTFVLLLICIAYWAMTALYLATSGQPQYVLWASNISSPGCEKVPINTSCNPTAH 413
+ YPLVTF LL +CIAYWA TA++L+TS + Y ++ + P K N P++H
H38087 358 SLLYPLVTFLLCLCIAYWASTAVFLSTSNEAVYKIFDDS-PCPFTAKT-CNPETFPSSH 415

24P4C12 414 LVNSSCPGLMCVFQGYSSKGLIQRSVFNLQIYGVGLFWTLNWVLALGQCVLAGAFASFY 473
+ CP C F Y + R++ LQI+ FW N+VLAHQ LAGAFAS+Y
H38087 416 -ESRQCPNARQFVYGGESGYHRALLGLQIFNAFMFFWLANFVLAQGVTLAGAFASYY 474

24P4C12 474 WAFHKPQDIPTFPLISAFIRTLRYHTGSLAFGALILTLVQIARVILEYIDHKLRGVQNPV 533
WA KP D+P FPL SAF R LRYHTGSLAFGALIL +VQI RVILEY+D +L+ +N
H38087 475 WALRKPDPLPAFPLSAFGRALRYHTGSLAFGALILAIVQIIRVILEYLDQRLKAAENKF 534

24P4C12 534 ARCIMCCFKCCLWCLEKFIKFLNRNAYIMIAIYGKNFCVSAKNAFMLLMRNIXXXXXXX 593
A+C+M C KCC WCLEKFIKFLNRNAYIMIAIYG NFC SA+NAF LLMRNI
H38087 535 AKCLMTCLKCCFWCLEKFIKFLNRNAYIMIAIYGTNFCTSARNAFFLMLRNIIIRVAVLDK 594

24P4C12 594 XXXXXXXXXXXXXXXXXXXXXXXXRI PGLKDFKSPHLNYYWLPIMTSILGAYVIAS 653
RI + +D +P LNYYW+PI+T I+G+Y+IA
H38087 595 VTDFLFLLGKLLIVGSVGILAFFFTHRI-RIVQD-TAPPLNYWVPILTIVGSYLIAB 652

24P4C12 654 GFFSVFGMCVDTFLFCFLEDLERNNNGSLDRPYMSKSLLKILGKNE 700
GFFSV+GMCVDTLFLCFLEDLERN+GS +RPy+MS +L K+L K N+
H38087 653 GFFSVYGMCVDTLFLCFLEDLERNDGSAERPYSMSSTLKKLLNKTNK 699

FIG. 9A

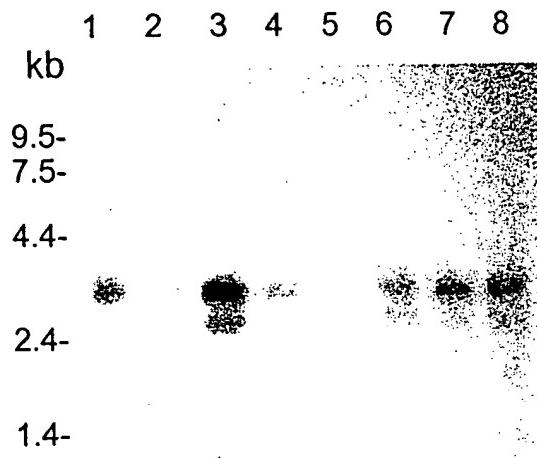


FIG. 9B

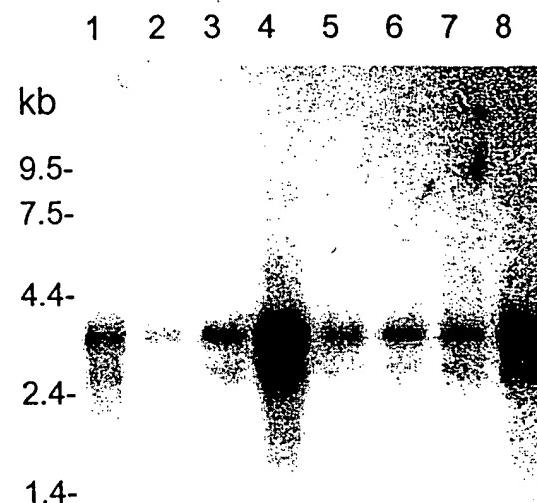


FIG. 9C

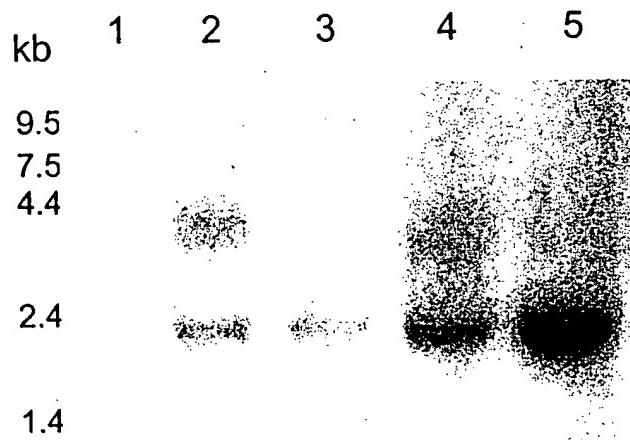


FIG. 10A

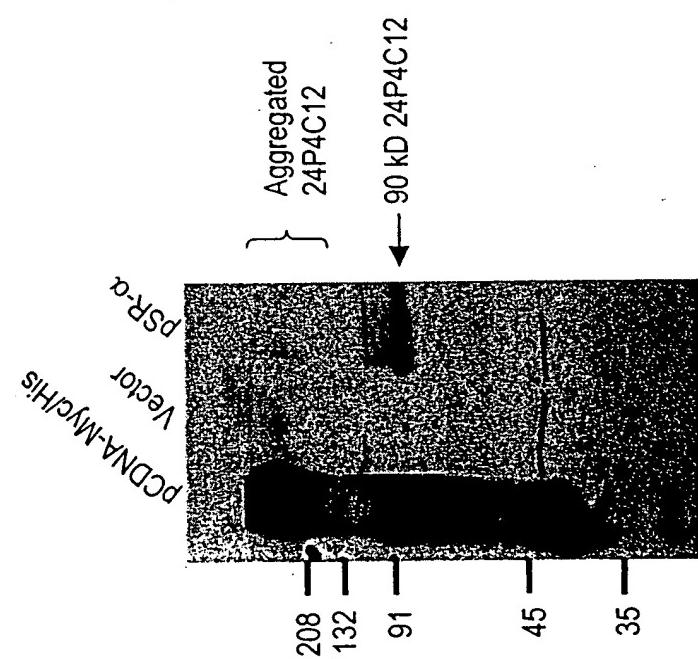


FIG. 10B

